

WHAT WE CLAIM IS:

1. An image-formation optical system comprising,
in order from an object side thereof, an aperture stop, a
first positive meniscus lens convex on an object side
5 thereof, a second positive lens having an aspheric surface
and a third negative lens having an aspheric surface,
wherein a total of three lens elements are used.

2. The image-formation optical system according
to claim 1, which satisfies the following condition:

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$$0.95 < \Sigma d/f < 1.25 \quad \dots (1)$$

where Σd is a distance on an optical axis of the image-
formation optical system from an object side-surface of
the first positive meniscus lens to an image plane side-
surface of the third negative lens, and f is a focal
15 length of the image-formation optical system.

3. The image-formation optical system according
to claim 1, wherein said first positive meniscus lens
satisfies the following condition:

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$$0.3 < r_1/f < 0.6 \quad \dots (2)$$

where r_1 is a radius of curvature on an optical axis of an
object side-surface of the first positive meniscus lens,
and f is a focal length of the image-formation optical
system.

4. The image-formation optical system according
25 to claim 1, which satisfies the following conditions:

$$0.5 < f_{12}/|f_3| < 1 \quad \dots (3)$$

$$0.7 < |f_3|/f < 1.8 \quad \dots (4)$$

where f_{12} is a composite focal length of the first positive meniscus lens and the second positive lens, f_3 is a focal length of the third negative lens, and f is a focal length of the image-formation optical system.

5. The image-formation optical system according to claim 1, which satisfies the following condition:

$$-1 < \text{EXP}/f < -0.5 \quad \dots (5)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and f is a focal length of the image-formation optical system.

6. The image-formation optical system according to claim 1, wherein the second positive lens having an aspheric surface is made up of a plastic lens.

7. The image-formation optical system according to claim 1, wherein the third negative lens having an aspheric surface is made up of a plastic lens.

8. The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.98 < \Sigma d/f < 1.20 \quad \dots (1-1)$$

where Σd is a distance on an optical axis of the image-formation optical system from an object side-surface of the first positive meniscus lens to an image plane side-surface of the third negative lens, and f is a focal length of the image-formation optical system.

9. The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.32 < r_1/f < 0.55 \quad \dots (2-1)$$

where r_1 is a radius of curvature on an optical axis of an object side-surface of the first positive meniscus lens, and f is a focal length of the image-formation optical system.

10. The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.53 < f_{12}/|f_3| < 0.96 \quad \dots (3-1)$$

where f_{12} is a composite focal length of the first positive meniscus lens and the second positive lens, and f_3 is a focal length of the third negative lens.

11. The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.75 < |f_3|/f < 1.3 \quad \dots (4-1)$$

where f_3 is a focal length of the third negative lens, and f is a focal length of the image-formation optical system.

12. The image-formation optical system according to claim 1, which satisfies the following condition:

$$-0.8 < EXP/f < -0.6 \quad \dots (5-1)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and f is a focal length of the image-formation optical system.

13. The image-formation optical system according

to claim 1, wherein lenses having a refracting power are provided only by said first positive meniscus lens, said second positive lens and said third negative lens.

14. An imaging system, comprising an image-
5 formation optical system as recited in claim 1 and an electronic image pickup device located on an image side thereof.

15. The imaging system according to claim 14, which satisfies the following condition:

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$$55^\circ < 2\omega < 70^\circ \quad \dots (6)$$

where ω is a half angle of view, and 2ω is a total angle of view.

16. The imaging system according to claim 14, which satisfies the following condition:

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$$60^\circ < 2\omega < 67^\circ \quad \dots (6-1)$$

17. An imaging system comprising an image-
formation optical system comprising, in order from an
object side of said image-formation optical system, an
aperture stop, a first positive meniscus lens convex on an
20 object side thereof, a second positive lens having an
aspheric surface and a third negative lens having an
aspheric surface, and an image pickup device located on an
image side thereof, wherein a total of three lens
elements are used in said image-formation optical system,
25 and said aperture stop has a fixed shape of aperture
through which light rays pass, wherein an outer peripheral

surface of said aperture is inclined in such a way as to taper down to an optical axis toward an image plane side.

18. An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, and there is provided a lens barrel for holding said image-formation optical system and said image pickup device, wherein said aperture stop is molded integrally of the same resin of which said lens barrel is molded.

19. An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, a lens barrel is provided for holding said image-formation optical system, and a peripheral surface of at least said third negative lens is inclined in such a way as to taper

down to an optical axis toward the object side for abutment on said lens barrel.

20. An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, a lens barrel is provided for holding said image-formation optical system, said first positive meniscus lens takes on a circular shape as viewed from an entrance side of said imaging system, and said third negative lens is configured such that, as viewed from the entrance side of said imaging system, a length thereof in a direction corresponding to a short-side direction of an effective image pickup area of said image pickup device is shorter than a length thereof in a direction corresponding to a long-side direction of the effective image pickup device.